WASTE MANAGEMENT

Volume 17, Number 1 1997

CONTENTS

Original Contributions

I. G. McKinley 1 Engineering for Robustness: An Approach to Optimising HLW Disposal Concepts

S. A. Stronach, N. L. Walker, D. E. Macphee, F. P. Glasser 9 Reactions Between Cement and As(III) Oxide: The System $CaO–SiO_2–As_2O_3–H_2O$ at 25°C

C. S. Poon, K. W. Lio 15 The Limitation of the Toxicity Characteristic Leaching Procedure for Evaluating Cement-Based Stabilised/Solidified Waste Forms

W. P. Hamilton, A. R. Bowers 25 Determination of Acute Hg Emissions from Solidified/Stabilized Cement Waste Forms

P. K. Sinha, K. B. Lal, J. Ahmed 33 Removal of Radioiodine from Liquid Effluents

A. R. Boccaccini, M. Bücker, J. Bossert, K. Marszalek 39 Glass Matrix Composites from Coal Flyash and Waste Glass

A. Koyama, K. Nishimaki 47 Feasibility Study of the Applicability of the Activated Sludge Process to Treatment of Radioactive Organic Liquid Waste

C.-T. Chen, S.-H. Li 53 Radionuclide Transport in Fractured Porous Media—Analytical Solutions for a System of Parallel Fractures with a Constant Inlet Flux

F. Kargi, I. Karapinar 65 Performance of Fluidized Bed Bioreactor Containing Wire-Mesh Sponge Particles in Wastewater Treatment

S. H. Lin, S. J. Ho 71 Treatment of High-Strength Industrial Wastewater by Wet Air Oxidation—A Case Study

L. Helsen, E. Van den Bulck, K. Van den Broeck, C. Vandecasteele 79 Low-Temperature Pyrolysis of CCA-Treated Wood Waste: Chemical Determination and Statistical Analysis of Metal Input and Output; Mass Balances

Technical Notes

M. A. A. Aslani, S. Akyil, M. Eral 87 Immobilization of Thorium over Fibroin by Polyacrylonitrile (PAN)

R. C. Agu, A. E. Amadife, C. M. Ude, A. Onyia, E. O. Ogu, M. Okafor, E. Ezejiofor 91 Combined Heat Treatment and Acid Hydrolysis of Cassava Grate Waste (CGW) Biomass for Ethanol Production

Al. Cecal
V. Rudic
A. Gulea
I. Palamaru
D. Humelnicu
M. Goantă
V. V. Salaru 97 Recuperation of Uranyl Ions from Effluents by Means of Microbiological Collectors

Book Review

W. D. Constant 101 *Toxic Impacts of Wastes on the Aquatic Environment*

Volume 17, Numbers 2/3 1997

CONTENTS

SPECIAL ISSUE—LIFE CYCLES OF ENERGETIC MATERIALS

Original Contributions

M. D. Le 103 Solid Propellant Environmental Issues

A. L. Graham
P. T. Reardon 113 Pollution Burdens Associated with Load/Assemble/Pack of an AP Based MK-66 PIP Motor by Continuous and Batch Proessing

R. E. Farncomb
G. W. Nauflett 123 Innovative Polymer Processing in Carbon Dioxide

A. S. Cumming
N. C. Paul 129 Environmental Issues of Energetic Materials: A U.K. Perspective

R. Borcherding 135 An Alternative to Open Burning Treatment of Solid Propellant Manufacturing Wastes

M. D. Coburn
M. A. Hiskey
T. G. Archibald 143 Scale-Up and Waste-Minimization of the Los Alamos Process for 1,3,3-Trinitroazetidine (TNAZ)

N. H. A. van Ham 147 Recycling and Disposal of Munitions and Explosives

T. P. DiNoia
M. A. McHugh
J. E. Cocchiaro
J. B. Morris 151 Solubility and Phase Behavior of PEP Binders in Supercritical Carbon Dioxide

D. Burch
M. Johnson
K. Sims 159 Value Added Products from Reclamation of Military Munitions

A. A. Linniger
E. Salomone
S. A. Ali
E. Stephanopoulos
G. Stephanopoulos 165 Solubility and Phase Behavior of PEP Binders in Supercritical Carbon Dioxide

M. A. Bohn
R. Schweppe
W. Weisweiler 175 Recovering of Components from Plastic Bonded Propellants

J. Kendrick
E. Robson
W. Leeming
G. A. Leiper
A. S. Cumming
C. Leach
187 Molecular Modelling of Novel Energetic Materials

Volume 17, Number 4 1997

CONTENTS

Original Contributions

R. A. Bulman
G. Szabó
R. F. Clayton
C. R. Clayton
191 Investigations of the Uptake of Transuranic Radionuclides by Humic and Fulvic Acids Chemically Immobilized on Silica Gel and their Competitive Release by Complexing Agents

M. A. Fonseca Almeida
R. A. R. Boaventura
201 Chromium Precipitation from Tanning Spent Liquors using Industrial Alkaline Residues: A Comparative Study

M. Ashraf Chaudry
S. Ahmad
M. T. Malik
211 Supported Liquid Membrane Technique Applicability for Removal of Chromium from Tannery Wastes

J. C. Hower
R. F. Rathbone
T. L. Robl
G. A. Thomas
B. O. Haeberlin
A. S. Trimble
219 Case Study of the Conversion of Tangential- and Wall-fired Units to Low-NO_x Combustion: Impact on Fly Ash Quality

S. Stucki
A. Jakob
231 Thermal Treatment of Incinerator Fly Ash: Factors Influencing the Evaporation of $ZnCl_2$

R. D. Waters
M. M. Gruebel
237 Volumetric and Radiological Capacity Requirements for Disposal of Treated Mixed Low-level Waste

C. Shi
J. Stegemann
R. Caldwell
249 An Examination of Interference in Waste Solidification through Measurement of Heat Signature

T. Nedwed
D. A. Clifford
257 A Survey of Lead Battery Recycling Sites and Soil Remediation Processes

Book Review

D. D. Reible
271 *Management of Process Industry Waste*

Volume 17, Number 5/6 1997

SPECIAL ISSUE—PROCEEDINGS FROM THE INTERNATIONAL SYMPOSIUM ON OCEAN DISPOSAL OF CARBON DIOXIDE

CONTENTS

	273	Editorial
		Opening Addresses
H. Mitsukawa	275	International Symposium on Ocean Disposal of Carbon Dioxide
J. Tilley	277	Enhancing Climate Change Responses Through International Technology Collaboration
S. Kusuda	279	International Symposium on Ocean Disposal of Carbon Dioxide
P. Freund	281	International Collaboration on Capture, Storage and Utilisation of Greenhouse Gases
		National Overview
P. Bergman	289	Overview of U.S. Department of Energy Research Subprogram in CO_2 Capture, Re-use and Disposal
		Original Contributions
K. Yamaji	295	A Study of the Role of End-of-pipe Technologies in Reducing CO_2 Emissions
H. Kongsjorden **O. Kårstad** **T. A. Torp**	303	Saline Aquifer Storage of Carbon Dioxide in the Sleipner Project
P. Bergman **R. Kane** **J. Kildow**	309	United States Policy for Mitigating Global Climate Change
R. B. Bacastow **R. K. Dewey** **G. R. Stegen**	315	Effectiveness of CO_2 Sequestration in the Pre- and Post-Industrial Oceans
P. M. Haugan	323	Impacts on the Marine Environment from Direct and Indirect Ocean Storage of CO_2
C. S. Wong **R. J. Matear**	329	Ocean Disposal of CO_2 in the North Pacific Ocean: Assessment of CO_2 Chemistry and Circulation on Storage and Return to the Atmosphere
G. C. Nihous	337	Technological Challenges Associated with the Sequestration of CO_2 in the Ocean
T. Uchida	343	Physical Property Measurements on CO_2 Clathrate Hydrates. Review of Crystallography, Hydration Number, and Mechanical Properties
S. Hirai **K. Okazaki** **Y. Tabe** **K. Hijikata**	353	Mass Transport Phenomena of Liquid CO_2 with Hydrate

N. Nakashiki	361	Lake-type Storage Concepts for CO_2 Disposal Option
M. Ozaki	369	CO_2 Injection and Dispersion in Mid-ocean Depth by Moving Ship
E. E. Adams **J. A. Caulfield** **H. J. Herzog** **D. I. Auerbach**	375	Impacts of Reduced pH from Ocean CO_2 Disposal: Sensitivity of Zooplankton Mortality to Model Parameters
Y. Shirayama	381	Biodiversity and Biological Impact of Ocean Disposal of Carbon Dioxide
K. Shitashima	385	CO_2 Supply from Deep-sea Hydrothermal Systems
	391	Summary of Panel Discussion

Volume 17, Number 7 1997

CONTENTS

	403	Publisher's Note
	405	Editorial
		Original Contributions
M. Cici **Y. Cuci**	407	Production of Some Coagulant Materials from Galvanizing Workshop Waste
C. A. Boyle **B. W. Baetz**	411	A Prototype Knowledge-based Decision Support System for Industrial Waste Management: Part II. Application to a Trinidadian Industrial Estate Case Study
B. Luckscheiter **M. Nesovic**	429	Long Term Corrosion Behaviour of the WAK-HLW Glass in Salt Solutions
S. T. Sundaram **Y. Z. Zhang** **A. Sharma** **B. W. Brodman**	437	Screening for the Involvement of the Hydroxyl Radical in the Biodegradation of Glyceryl Trinitrate by *Penicillium corylophilum* Dierckz
S. Wang **T. Viraraghavan**	443	Wastewater Sludge Conditioning by Fly Ash
P. D. Ferro **B. Mishra** **D. L. Olson** **W. A. Averill**	451	Application of Ceramic Membrane in Molten Salt Electrolysis of $CaO\text{-}CaCl_2$
M. Mahamud **A. Gutiérrez** **H. Sastre**	463	Biosolids Management in Spain: A Case Study

Book Review

T. F. Wiesner 473 *Waste Policy and Learning: Policy Dynamics of Waste Management and Waste Incineration in The Netherlands and Bavaria*

Volume 17, Number 8 1997

CONTENTS

Original Contributions

D. Lanoir
G. Trouvé
L. Delfosse 475 Laboratory Scale Studies on Gaseous Emissions Generated by the Incineration of an Artificial Automotive Shredder Residue Presenting a Critical Composition

K. R. Ramakrishna
T. Viraraghavan 483 Use of Slag for Dye Removal

R. M. Hawk
G. L. Fuller 489 Electrolytic Oxidation Studies of 2.2′-Dichlorobiphenyl using Ruthenium Oxide Electrodes, Persulfate Oxidizers, and UV Irradiation

Z. Yu
D. L. Cocke 497 Capillary Electrophoretic Study of Dibasic Acids of Different Structures: Relation to Separation of Oxidative Intermediates in Remediation

S. Shimoda
H. W. Prengle, Jr
J. M. Symons 507 H_2O_2/VisUV Photo-oxidation Process for Treatment of Waterborne Hazardous Substances—Reaction Mechanism, Rate Model, and Data for Tubular Flow and Flow Stirred Tank Reactors

V. K. Gupta
S. K. Srivastava
D. Mohan
S. Sharma 517 Design Parameters for Fixed Bed Reactors of Activated Carbon Developed from Fertilizer Waste for the Removal of Some Heavy Metal Ions

J. C. Hower
U. M. Graham
A. S. Wong
J. D. Robertson
B. O. Haeberlin
G. A. Thomas
W. H. Schram 523 Influence of Flue-gas Desulfurization Systems on Coal Combustion By-product Quality at Kentucky Power Stations Burning High-sulfur Coal

R. Berardi
R. Cioffi
L. Santoro 535 Matrix Stability and Leaching Behaviour in Ettringite-based Stabilization Systems Doped with Heavy Metals

Technical Note

C. L. Yaws
J. R. Hopper
S. D. Sheth
M. Han
R. W. Pike

541 Solubility and Henry's Law Constant for Alcohols in Water